

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph numbered [0003] with the following paragraph:

[0003] Currently measurement of machinery wear by detection of wear debris involves removal of oil samples from the machinery for analysis by use of magnetic Hall effect sensors, which may be intrusive and/or very expensive, where fiber optics types of such sensors are utilized. Other generally known optical fiber systems for monitoring metallic debris require algorithms to discern the metallic debris from air bubbles and other anomalies. It is an important object of the present invention to provide a relatively smaller and less intrusive system for the detection and measurement of metallic debris reflecting machinery wear.

Please replace paragraph numbered [0004] with the following paragraph:

[0004] Pursuant to the present invention, metallic debris is detected and measured directly within fluid enclosure while the fluid is undergoing flow therein from machinery for example. Magnetic attraction of particles of the metallic debris within such fluid onto cantilever beams of a generally known type associated with micro-mechanical systems is involved. The cantilever beams are positioned so that vibratory motion thereof is induced by electromechanical forces applied through a magnetic field which also establishes the magnetic attraction of the metallic debris onto the cantilever beams while the fluid is undergoing flow and monitors changes in resonance frequency of the vibratory motions reflecting variations in debris density within the fluid being tested reflecting wear of the machinery.

Please replace paragraph numbered [0014] with the following paragraph:

[0014] The debris sensor arrangement 18 as hereinbefore described is utilized to detect the density of the metallic debris particles 16 within the body of ~~test fluid 12~~ 14 being tested while undergoing flow within the pipe 12. The pipe 12 may constitute a lubrication line extending from the machinery 10 through which machinery wear is reflected by change in cantilever vibratory motion frequency detected by the sensor 32 for monitoring machinery wear reflected by debris density through the data process indicator 34 and to control changes in energization of the magnetic coil 30 through the selective control 36. According to other embodiments of the present invention, the debris sensor arrangement 18 may alternatively be located in other installation enclosures such as a debris storage tank associated for example with food or drug manufacturing or water purification systems for indication of use or wear therein by monitoring of debris density.